

# Conference Program

## 8<sup>th</sup> International Conference on Technology in Mathematics Teaching

July 1 - 4, 2007, Hradec Králové, Czech Republic



### Saturday, June 30<sup>th</sup>

17.00 - 19.00 Registration – building A

### Sunday, July 1<sup>st</sup>

8.30 - 17.00 Registration – building A  
 10.00 - 10.15 **Opening address** – Aula, building A  
 10.15 - 11.15 **Plenary session** – Aula, building A  
 11.30 - 13.00 Lunch  
 13.00 - 14.20 **Parallel sessions** – building A  
 14.30 - 15.00 Coffee break  
 15.00 - 16.00 **Poster session** – building A  
 16.00 - 17.00 **Workshops** – building A  
 19.30 - 21.00 Concert and welcome drink

### Monday, July 2<sup>nd</sup>

9.00 - 10.20 **Parallel sessions** – building A  
 10.30 - 11.00 Coffee break  
 11.00 - 12.45 **Plenary sessions** – Aula, building A  
 13.00 - 14.30 Lunch  
 14.30 - 15.50 **Parallel sessions** – building A  
 16.00 - 16.30 Coffee break  
 17.00 - 19.00 **Workshops** – building B

### Tuesday, July 3<sup>rd</sup>

9.00 - 10.20 **Parallel sessions** – building A  
 10.30 - 11.00 Coffee break  
 11.00 - 12.45 **Plenary sessions** – Aula, building A  
 13.00 - 14.00 Lunch  
 14.00 - 19.00 Excursions  
 20.00 - 23.00 Conference dinner

### Wednesday, July 4<sup>th</sup>

9.00 - 11.00 **Workshops** – building B  
 11.30 - 11.45 **Closing session** – Aula, building A  
 12.00 - 13.30 Lunch

#### Abbreviations:

T1 - **Integration of ICT into learning processes**  
 T2 - **Technology in teacher education**  
 T3 - **Designing and using Dynamic Mathematics environments**  
 T4 - **Mathematics modeling with technology**  
 T5 - **Communities of practice**  
 W – **Workshop**

AX, where  $X \in \{1, 2, 3, 4, 5\}$  - room in the building A  
 BY where  $Y \in \{5, 11, 12, 16\}$  - room in the building B

**Building A:** Hradecká 1227 (see the map)  
**Building B:** nám. Svobody 331 (see the map)

**The conference organisers reserve the right to change the program should circumstances deem it necessary.**

## Sunday July 1<sup>st</sup>

10.00 - 10.15 **Opening address** – Aula, **Milková E.**

10.15 - 11.15 **Plenary session** – Aula, chair **Slabý A.**

**Fraunholz Wolfgang:** Getting mathematical concepts and learning proofs by computer aided linear algebra

11.30 - 13.00 Lunch

13.00 – 14.20 **Parallel sessions** – building A

(13.00 – 13.20 – 13.40 – 14.00 – 14.20)

Room A1	T1	Room A2	T1	Room A3	T2	Room A5	T3	Room A4	T4
chair: <b>Jones P.</b>		chair: <b>Hvorecký J.</b>		chair: <b>Brown S.</b>		chair: <b>Issakova M.</b>		chair: <b>Heck A.</b>	
<b>Albano J., Desiderio M.</b> Importance of semiotic representations: how CAS can help		<b>Tonisson E.</b> Branch Completeness in School Mathematics and in Computer Algebra Systems		<b>García-Campos M., Rojano, T.</b> Computer Algebra Systems: A teacher centered study on the cognitive and didactic dimensions.		<b>Gelis J. M., Lagrange J. B.</b> The Casyopée project: computer symbolic computation for students' better access to algebraic notation and rich mathematics		<b>Stanoyevitch A.</b> Using simulations on MATLAB <sup>®</sup> to help crack difficult mathematics problems	
<b>Tetlow L., Oldknow A.</b> Innovative approaches using ICT to support the teaching and learning of Advanced Mathematics: ICTAM		<b>Roberts L.F.</b> Integrating Handheld Technology into Mathematics Instruction		<b>Habre S.</b> The Role of Technology in the Writing of Mathematical Proofs		<b>Bouhineau D. et al.</b> Adding new Representations of Mathematical Objects to Aplusix		<b>Wurnig O.</b> Introduction of conics in form 11 with the help of GeoGebra.	
<b>Narayan J., Schell R..</b> Spreadsheet Learning Environment (SLE) in a Required Mathematics Course.		<b>Hvorecký J.</b> Making Mathematics Simple, Attractive, and Realistic		<b>Brown S.</b> Using Technology to Improve Mathematics Methods Courses		<b>Wilson S.J.</b> Dynamic Web Tools for Trigonometry		<b>Heck A.</b> Modelling Intake and Clearance of Alcohol in Humans	
<b>Jones P., Lancaster D. L.</b> Introducing CAS in state-wide mathematics examinations at the university entrance level: a brief case study						<b>Issakova M.</b> Do First Year Students Know how to Solve Simple Linear Equations? An Experiment with T-algebra			

14.30 - 15.00 Coffee break

15.00 - 16.00 **Poster session** – foyer, building A

16.00 - 17.00 **Workshops** – building A

Room A2	W	Room A5	W
<b>Lyublinskaya I.</b> Making Connections: Technology Based Science Experiments for Teaching and Learning Mathematics.		<b>Koreňová L., Hvorecký J.</b> Enriching Education of Mathematics and Science by Using a Graphing Calculator	

19,30 - 21,00

Concert and welcome drink

## Monday July 2<sup>nd</sup> - morning

9.00 - 10.20

**Parallel sessions – building A**

(9.00 – 9.20 – 9.40 – 10.00 – 10.20)

Room A1 T1	Room A2 T1	Room A3 T2	Room A5 T3	Room A4 T3
chair: <b>Quesada A. R.</b>	chair: <b>Bokhove Ch.</b>	chair: <b>Čihák M.</b>	chair: <b>Bouhineau D.</b>	chair: <b>Pražák P.</b>
<b>Wojtuś R.</b> The role of computer in the independent extracurricular work of student.	<b>Robotti E., Chiappini G.</b> Teaching and learning concrete and theoretical arithmetic through technology	<b>Lipeikiene J.</b> Open Source CAS in Mathematical Education of Teachers	<b>Oldknow A., Tetlow L.</b> Using dynamic geometry software to encourage 3D visualisation and modelling.	<b>Sojka P., Pich R.</b> Technological Challenges of Teaching Mathematics in a Blended Learning Environment
<b>Ratusiński T.</b> The parts of computer games in process of math's teaching	<b>Ruiz-Fuentes N. et al.</b> Incorporation of the ICT to the process of teaching Statistics and Statistic Sampling in Management and Public Administration for undergraduates	<b>Martinovic D.</b> Using Calculus-related Secondary Web Resources in a Course for Pre-service Teachers	<b>Lepp D.</b> Study of Student Mistakes in Solving Simplification Problems on Paper and Possibility of these Mistakes in the T-algebra Environment	<b>Miller C., Ehmman M.</b> Teaching and learning mathematics with dynamic worksheets
<b>Columba L.</b> Assessing and Helping More Students Achieve Success with First in Math Online Program	<b>Jiménez de la Rosa B.</b> Changes in Teaching and Learning with the Integration of Information and Communication Technologies	<b>McAnally M. et al.</b> Using Virtual Manipulatives in Mathematics for Preservice Teachers	<b>Lozano M. D., Trigueros M.</b> Design and use of an interactive computer programme for the teaching and learning of combinatorics	<b>Gravina M. A.</b> Drawing movement and insights for the proof process
<b>Quesada A. R., Smith M.</b> On topics that technology enables and are foundational to calculus at the secondary level	<b>Bokhove Ch. et al.</b> Towards an integrated learning environment for mathematics	<b>Beaudoin M.</b> The Appropriation of Information and Communication Technology by Pre-Service Teachers of Mathematics and Oral Learning	<b>Bouhineau D. et al.</b> Helping Teachers Generate Exercises with random coefficients	<b>Oldenburg R.</b> The Algebraic Modeling of Geometric Constraints in FeliX

10.30 - 11.00

Coffee break

11.00 - 12.45

**Plenary sessions – Aula, chair Oldknow A.**

**Laughbaum Edward:** Teaching and Learning Algebra based on Neuroscience/Cognitive Science Research

**Yang Wei-Chi:** Creative And Dynamic Contents Evolve When Technological Tools Advance

13.00 - 14.30

Lunch

## Monday July 2<sup>nd</sup> - afternoon

14.30 - 15.50

**Parallel sessions – building A**

(14.30 – 14.50 – 15.10 – 15.30 – 15.50)

Room A2 T1	Room A3 T2	Room A5 T3	Room A4 T5
chair: <b>Lagrange J. B.</b>	chair: <b>Kašpar J.</b>	chair: <b>Gavalcová T.</b>	chair: <b>Taylor R.</b>
<b>Dębicka D.</b> Developing of students' mathematical competences by using mathematical software.	<b>Olkun S. et al.</b> Analyzing and Enhancing Geometric Transformation Skills of Elementary Education pre-Service Teachers within an International Context	<b>Moravčík M., Lehotská D.</b> Environment for symmetrical patterns creation	<b>Clark-Wilson A., Knights C.</b> Classroom Use of Dynamic Geometry Software in the UK
<b>Juskowiak E.</b> Graphing calculator as a tool for monitoring student's work	<b>Wadoń K.</b> Different kinds of understanding of the concept of parameter	<b>Pedemonte B., Chiappini G.</b> ALNUSET: a new artefact for teaching and learning algebra	<b>Milková E., Pozdílek M.</b> Multimedia applications – a helpful support of the subject Discrete Mathematics
<b>Stols G.</b> Does the Technology Acceptance Model explain the use of technology for mathematics instruction?	<b>Kašpar J. Robová J.</b> Teachers Training for Effective Use of IT in Mathematics Teaching	<b>Todd P.</b> Geometry Expressions – A Dynamic Symbolic Geometry Environment	<b>Oldknow A., Taylor R.</b> Mathematics, science and technology teachers working collaboratively with ICT
<b>Lagrange J. B., Ozdemir E.</b> Mathematics teachers using technology in the classroom: the role of “emergent goals”			<b>Clark-Wilson A., Oldknow A.</b> Innovative multimedia approaches to mathematics education

16.00 - 16.30

Coffee break

17.00 - 19.00

**Workshops – building B**

(17.00 - 18.00 - 19.00)

Room B5 W	Room B11 W	Room B12 W	Room B16 W
<b>Bokhove Ch. et al.</b> Towards an integrated learning environment for mathematics	<b>Čihák M.</b> Teaching probability at secondary schools using computers	<b>Lyublinskaya I., Ryzhik V.</b> Interactive Geometry Labs – US Russian Approach	<b>Hvorecký J., Koreňová L.</b> Using a Spreadsheet Tool of a Graphing Calculator
<b>Sharp B.</b> Connecting Mathematical Concepts to Real-world Application: Using Digital Cameras in Teacher Education Courses	<b>Tonisson E. et al.</b> Intelligent problem solving environment T-algebra	<b>Eren S., Unver H.</b> Students' perceptions of graphing calculator in high school math courses: a case study in Turkey	

## Tuesday July 3<sup>rd</sup>

9.00 - 10.20

**Parallel sessions** - building A

(9.00 – 9.20 – 9.40 – 10.00 – 10.20)

Room A2	T1	Room A3	T3	Room A5	T3	Room A4	T5
chair: <b>Robutti O.</b>		chair: <b>McCabe M.</b>		chair: <b>Olivero F.</b>		chair: <b>Laughbaum E.</b>	
<b>Trigueros M., Sacristán A.I.</b> Teachers' practice and students' learning in the Mexican programme for Teaching Mathematics with Technology		<b>Melis E., Libbrecht P. et al.</b> How ActiveMath Supports Moderate Constructivist Mathematics Teaching		<b>Windsteiger W. et al.</b> CreaComp: Computer-Supported Experiments and Automated Proving in Learning and Teaching Mathematics		<b>Searcy M. E., Thomley J. E.</b> Barriers to Interdisciplinary Computational Innovations in Education	
<b>Ursini S. et al.</b> Using technology in the mathematics class: how this affects students' achievement and attitudes		<b>Christou C. et al.</b> Developing an Active Learning Environment for the Learning of Stereometry		<b>Magajna Z.</b> Computer Aided Learning of Proving in School Geometry		<b>Zinger V.</b> Teaching Mathematics on-line: Alaskan Experience	
<b>Manizade A. G., Che M.</b> Creating E-portfolio to Collect and Present the Evidence of Preservice Teachers' Content Knowledge and Pedagogical Content Knowledge Growth at the Secondary Level		<b>Mousoulides M. et al.</b> Mathematical Modelling Using Technology in Elementary School		<b>Olivero F.</b> Static and dynamic statements in the proving process: focusing on change		<b>Kizito R. D., Wessels D. et al.</b> Instructional design for teaching introductory Calculus to first year undergraduate students within a technology-enhanced distance learning environment at the University of South Africa	
<b>Robutti O.</b> Infinity at primary and secondary school: signs and meanings		<b>McCabe M.</b> Reusable Assessment Objects in Mathematics Teaching				<b>Dougherty B. J., Hobbs M.</b> The Effects of the TI-Navigator System on Student Achievement and Attitude in Algebra	

10.30 - 11.00

Coffee break

11.00 - 12.45

**Plenary sessions** – Aula, chair **Gavalcová T.**

**Butler Douglas:** What can technology add to the mathematics classroom?

**Kučera Luděk:** Algovision or how to animate algorithms

13.00 - 14.00

Lunch

14.00 - 19.00

Excursions

20.00 -

Conference dinner

## Wednesday July 4<sup>th</sup>

9.00 - 11.00

**Workshops** – building B

(9.00 - 10.00 - 11.00)

Room B5 W	Room B11 W	Room B12 W	Room B10 W
<b>Foley G.D.</b> Using Handheld Technology and Genuine Data to Enhance the Preparation for Calculus	<b>O’Neal J., Browning Ch.</b> Preparing Teacher Candidates to Teach Mathematics Using Technology: Creating a Classroom Network	<b>Mackrell K.</b> Advanced Techniques in Interactive Geometry	<b>Butler D.</b> Autograph: a teacher-centred approach to dynamic classroom software
<b>Moskowitz S.</b> Calculators: A Tool to Develop Number Sense for Pre-Service Elementary Teachers	<b>Gelis J. M., Lagrange J. B.</b> The Casyopée project: computer symbolic computation for students’ better access to algebraic notation and rich mathematics	<b>Moss M.</b> Project Interactivate Applets in Mathematics Teacher Education	<b>Butler D.</b> – repeated session Autograph: a teacher-centred approach to dynamic classroom software

11.30 - 11.45

**Closing session** – Aula, Milková E.

12.00 - 13.30

Lunch